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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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TITLE: MULTIPLE TUBE TYPE SPEARATION MEMBRANE MODULE

AMENDED CLAIMS

1. (original) A multiple tube type separation membrane module comprising:

a plurality of tubular separation membrane elements having sealed ends and open ends;

outside tubes surrounding the tubular separation membrane elements with spaces formed therebetween and having first openings on the sealed ends side of the tubular separation membrane elements as well as having second openings in the vicinities of the open ends of the tubular separation membrane elements;

inlet means communicating with the first openings of the outside tubes;

first outlet means communicating with the open ends of the tubular separation membrane elements; and

second outlet means communicating with the second openings of the outside tubes,

wherein a fluid flowing from the first openings of the outside tubes through the inlet means flows in the spaces between the tubular separation membrane elements and the outside tubes, a component separated from the fluid by the tubular separation membrane elements flows out from the first outlet means through the open ends of the tubular separation membrane elements, and a remaining fluid flows out from the second outlet means,and

wherein the tubular separation membrane elements comprise hollow ceramic tubes around which a zeolite membrane having fine pores approximately as large as the molecules of a substance to be separated is formed.

2. (original) A multiple tube type separation membrane module comprising:

a shell having an outlet;

a first support plate fixed to an end of the shell;

a second support plate fixed to the other end of the shell;

a plurality of outside tubes supported by the first and second support plates and extending in the lengthwise direction of the shell;

tubular separation membrane elements disposed in the outside tubes;

a first cover attached to the first support plate; and

a second cover attached to the second support plate,

wherein the outside tubes have first openings formed on the first cover side through which a fluid flows as well as have second openings formed on the second cover side through which a remaining flows out after the completion of separation processing, the tubular separation membrane elements have sealed ends on the first cover side as well as have open ends on the second cover side, and the spaces between the outside tubes and the tubular separation membrane elements are opened on the first cover side and sealed on the second cover side, thereby a component, which is separated by the tubular separation membrane elements from the fluid flowing from the first openings of the outside tubes into the spaces between the outside tubes and the tubular separation membrane elements, flows out into the second cover from the open ends of the tubular separation membrane elements, and the remaining fluid flows out from the outlet of the shell through the second openings, and

wherein the tubular separation membrane elements comprise hollow ceramic tubes around which a zeolite membrane having fine pores approximately as large as the molecules of a substance to be separated is formed.

3. (original) A multiple tube type separation membrane module according to claim 2 further comprising:

a partition attached to the first cover to thereby form a first chamber and a second chamber on both the sides of the partition,

wherein a fluid flowed into the first chamber passes through the spaces between the outside tubes having first openings in the first chamber and the tubular separation membrane elements, flows out from the second openings of the outside tubes, flows into the outside tubes having first openings in the second chamber from the second openings, passes through the spaces between the outside tubes and the tubular separation membrane elements, and flows into the second chamber.

4. (currently amended) A multiple tube type separation membrane module according to ~~any of claims 1 to 3~~ claim 1, wherein the inside diameter of the outside tubes is 1.1 to 2 times the outside diameter of the tubular separation membrane elements.

5. (currently amended) A multiple tube type separation membrane module according to ~~any of claims 1 to 4~~ claim 1, wherein the sealed ends of the tubular separation membrane elements are fixed in the outside tubes while keeping the spaces by pins disposed to any ones of the outside tubes and the sealed ends.

8 6. (new) A multiple tube type separation membrane module according to claim 2, wherein the inside diameter of the outside tubes is 1.1 to 2 times the outside diameter of the tubular separation membrane elements.

9 7. (new) A multiple tube type separation membrane module according to claim 2, wherein the sealed ends of the tubular separation membrane elements are fixed in the outside tubes while keeping the spaces by pins disposed to any ones of the outside tubes and the sealed ends.

10 8. (new) A multiple tube type separation membrane module according to claim 3, wherein the inside diameter of the outside tubes is 1.1 to 2 times the outside

diameter of the tubular separation membrane elements.

9. (new) A multiple tube type separation membrane module according to claim 3, wherein the sealed ends of the tubular separation membrane elements are fixed in the outside tubes while keeping the spaces by pins disposed to any ones of the outside tubes and the sealed ends.